

New insight on the emergence of the Acheulean at Melka Kunture and on techno-economic tendencies during the Lower Pleistocene

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In the 1970s and 1980s, the emergence of the Acheulean technology at Melka Kunture was dated to 1 Ma, based on the presence and frequency of handaxes, cleavers and standardized scrapers in the lithic assemblage of Garba XIIJ. Earlier sites, as Gombore I, Karre I, and Garba IV (1.7-1.5 Ma) were classified as Oldowan/Developed Oldowan. Accordingly, the Oldowan and the Acheulean of Melka Kunture were interpreted as two distinct technical traditions separated by a chronological gap of 0.5 Ma.

On these assumptions, the early Acheulean appeared later at Melka Kunture than elsewhere in East Africa. In addition, in contrast with the dichotomy of Developed Oldowan/early Acheulean suggested by M. Leakey at Olduvai, at Melka Kunture there was no evidence of two parallel lines coexisting for more than one million years on the Ethiopian high plateau.

My aim is to update our knowledge of the techno-economic behaviours performed at Garba IVD, ~1.5 Ma, so far classified as Developed Oldowan. I will question previous hypothesis on the origin of the Acheulean at Melka Kunture, which were so far accepted without reservation. Two characteristics of the assemblage of Garba IVD are indicative of cultural change and of the emergence of the Acheulean: 1) a new *chaîne opératoire* focussing on large flake/LCT production, linked in turn to a strict selection of proper modules and of specific raw materials, as well as to prepared *débitage* methods; and 2) a large variability of small *débitage* modalities, including the systematic preparation of striking platforms and some degree of predetermination. The assemblage displays further technological features, which similarly confirm the technological variability and complexity highlighted in recent years in the early Acheulean of East Africa. My conclusions are that the emergence of the Acheulean at Melka Kunture is not later than 1.5 Ma.

Furthermore, in the homogeneous micro-regional and environmental setting of Melka Kunture, a preliminary evaluation of technological trends before and after 1.5 Ma possibly suggests a substantial techno-economic continuity between Oldowan and early Acheulean. On the opposite, around 1 Ma there is a clear discontinuity in the Acheulean tradition, while new techno-economic innovations appear.